

## **Larval Herring Acquire Resistance after Challenge with Viral Hemorrhagic Septicemia Virus**

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Post-metamorphosed juvenile herring, exposed to viral hemorrhagic septicemia virus (VHSV) as larvae, demonstrated limited resistance to subsequent challenge with VHSV. Among juvenile herring that were exposed to VHSV as larvae, subsequent challenge with VHSV resulted in 53-77% mortality, significantly less than that of immunologically naive cohorts (93-97%) that were exposed for the first time as juveniles. Furthermore, protection from a second exposure to VHSV was directly proportional to larval age at the time of first exposure, with 77% cumulative mortality occurring among juveniles initially exposed at 44 days post-hatch and only 53% cumulative mortality occurring among groups initially exposed at 89 days post-hatch. These results provide insight into natural mechanisms of acquired resistance to VHSV, and may begin to provide reasons why epidemics of VHSV appear sporadically among herring populations in regions where the pathogen is endemic.